DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed 01/25/2012 has been entered. Currently claims 12-25 and 29-33 are pending, claims 12-21 are withdrawn, and claims 1-11 and 26-28 are cancelled.

Claim Rejections - 35 USC § 112

2. Claims 22-25 and 29-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With regard to claim 22, the Examiner does not find support for the limitations "a marking component that can undergo a colour-forming reaction on irradiation at a wavelength above 2000 nm" in the specification as originally filed. This range for the functional limitation of the marking component does not find support in the specification as originally filed.

3. Claim 23 is rejected under 35 U.S.C. 112, 4th paragraph, as being of improper dependent form for failing to further limit the subject matter of the claim upon which it depends, or for failing to include all the limitations of the claim upon which it depends.

The claim seeks to state that the laser is a CO_2 laser; however, this does not further limit the claim from which it depends because claim 22 requires the laser to irradiate the ink formulation at 700-2000 nm and a CO_2 laser does not possess a wavelength in that range. A CO_2 laser has a wavelength of approximately 10000 nm, which means that claim 23 fails to limit the claim from which it depends.

Applicant may cancel the claim(s), amend the claim(s) to place the claim(s) in proper dependent form, rewrite the claim(s) in independent form, or present a sufficient showing that the dependent claim(s) complies with the statutory requirements.

Claim Rejections - 35 USC § 102

4. Claims 22, 23, and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Faber et al. (5,489,639).

With regard to claims 22, 23, 29, and 30, Faber et al. teach a laser marking composition that cupric hydroxide phosphate and cellulose derivatives as a plastic material (col. 2, lines 19-23 and 43-50). The laser wavelength for marking may be a Nd:YAG laser at 1064 nm or it may be a semi-conductor diode laser at 905 nm (col. 5, Table 1). The reference teaches that the range for the laser light is preferably 0.78 microns to 2 microns and this range should be where the copper salt absorbs strongly and the plastic does not absorb (col. 5, lines 37-43). Based upon this evidence and also based upon the fact that applicants' specification teaches cellulosic materials as suitable marking components (see pg. 14, lines 10-13), the cellulose derivatives will

inherently undergo a color forming reaction on irradiation at a wavelength above 2000 nm.

With regard to claim 31, Faber et al. teach that their plastic materials may be used in the form of a blend (col. 2, lines 19-35). In this instance, one of the plastic materials would read on the marking component and the other of the plastic materials would read on applicants' binder.

5. Claims 22 and 31-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Satake et al. (JP 2530233), machine translation included.

With regard to claims 22 and 31-33, Satake et al. teach forming an optical recording material using a copper hydroxide, which reads on applicants' metal salt, and crystal violet lactone, which reads on applicants' marking component (pg 3 and pg 12). They can be in a water or solvent based system and coated on a substrate with a binder (pg 3). Please note that light source to excite the copper is listed as 600-1000 microns; however, this is a typographical error and should be nanometers (pg 3). Based upon the fact that crystal violet lactone is a known heat sensitive dye precursor, which is one of applicants' preferable marking components in their specification (compare pg 14, lines 6-9 with lines 22-27), it will inherently have the absorption properties claimed.

6. Claims 22, 23, 29, 31-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Satake et al. (4,849,396).

Satake et al. teach a metal double salt that may have copper and a leuco dye, including crystal violet lactone, which reads on applicants' copper salt and poly-metal salt (col. 3, lines 59-66 and col. 7, lines 26-28). There may be a binder, water, or solvent used (col. 7, lines 62-65 and col. 8, lines 10-13). Based upon the fact that crystal violet lactone is a known heat sensitive dye precursor, which is one of applicants' preferable marking components in their specification (compare pg 14, lines 6-9 with lines 22-27), it will inherently have the absorption properties claimed.

Response to Arguments

7. Applicant's arguments, see Remarks, filed 01/25/2012, with respect to the objections to the specification, the objections to claims 26 and 29-33, the rejection of claims 22-33 under 35 USC 112(2), and the rejections based upon Khan, Delp, and Kulper et al. have been fully considered and are persuasive. The relevant rejections/objections have been withdrawn.

8. Applicant's arguments filed 01/25/2012 have been fully considered but they are not persuasive.

Applicants argue on page 6-7 of their Remarks that the Preliminary amendment filed June 23, 2006 shows that the limitations included in that amendment were part of the original disclosure because they were filed "on the filing date of the application".

The Examiner respectfully disagrees and notes that "the filing date of the application" is not June 23, 2006. The filing date of this application would be the PCT

application from which this national stage application was filed under 35 USC 371, i.e. January 14, 2005. This means the amendment filed June 23, 2006 was filed after the "filing date of the application", and therefore this amendment is not apart of the original disclosure of the application. The Examiner maintains his rejections with regard to the limitations that the marking component "can undergo a colour-forming reaction on irradiation at a wavelength above 2000 nm".

Applicants argue with regard to the two Satake references '233 and '396 that crystal violet lactone was only mentioned as a further additive and would not read on applicants' marking component that can undergo a color-forming reaction on irradiation at a wavelength above 2000 nm.

The Examiner respectfully disagrees and notes that crystal violet lactone is well known as a heat sensitive color-former; furthermore, applicants' specification describes at pg. 14, lines 6-9 that dye precursors may be used. Crystal violet lactone is a dye precursor. Given all of these facts the Examiner maintains that crystal violet lactone can inherently perform the functional limitations being claimed absent objective evidence to the contrary.

The Examiner notes that this rejection is being made into a non-final rejection based upon the fact that the Faber rejection has been added. This reference was mentioned as cumulative, but was not used as the Kulper reference was used; however, applicants were correct in noting that Kulper did not necessarily teach the limitations of claim 22.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERARD HIGGINS whose telephone number is (571)270-3467. The examiner can normally be reached on M-F 10am-8pm est. (Variable one work-at-home day).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Ruthkosky can be reached on 571-272-1291. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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